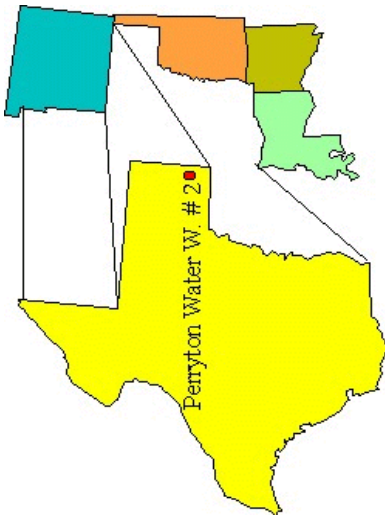
City of Perryton Water Well # 2
TEXAS

EPA ID# TX0001399435
Site ID: 0605015

EPA Region 6
Congressional District 13
Ochiltree County

Updated: May 4, 2004



Site Description

Location: The City of Perryton Well No. 2 site is located within the City of Perryton in the extreme northern most part of the Texas panhandle in Ochiltree County.

Population: The City of Perryton has a population of approximately 7,758 people.

Setting: Well No. 2 is located on a 1.7 acre maintenance yard used by the City of Perryton Utility Department. The maintenance yard is located near the northwest corner of Amherst Street and Santa Fe Ave. Well No.2 is a public drinking water supply well contaminated by carbon tetrachloride. The well was taken out of service in June 1989 when the Texas Department of Health originally documented the contamination .

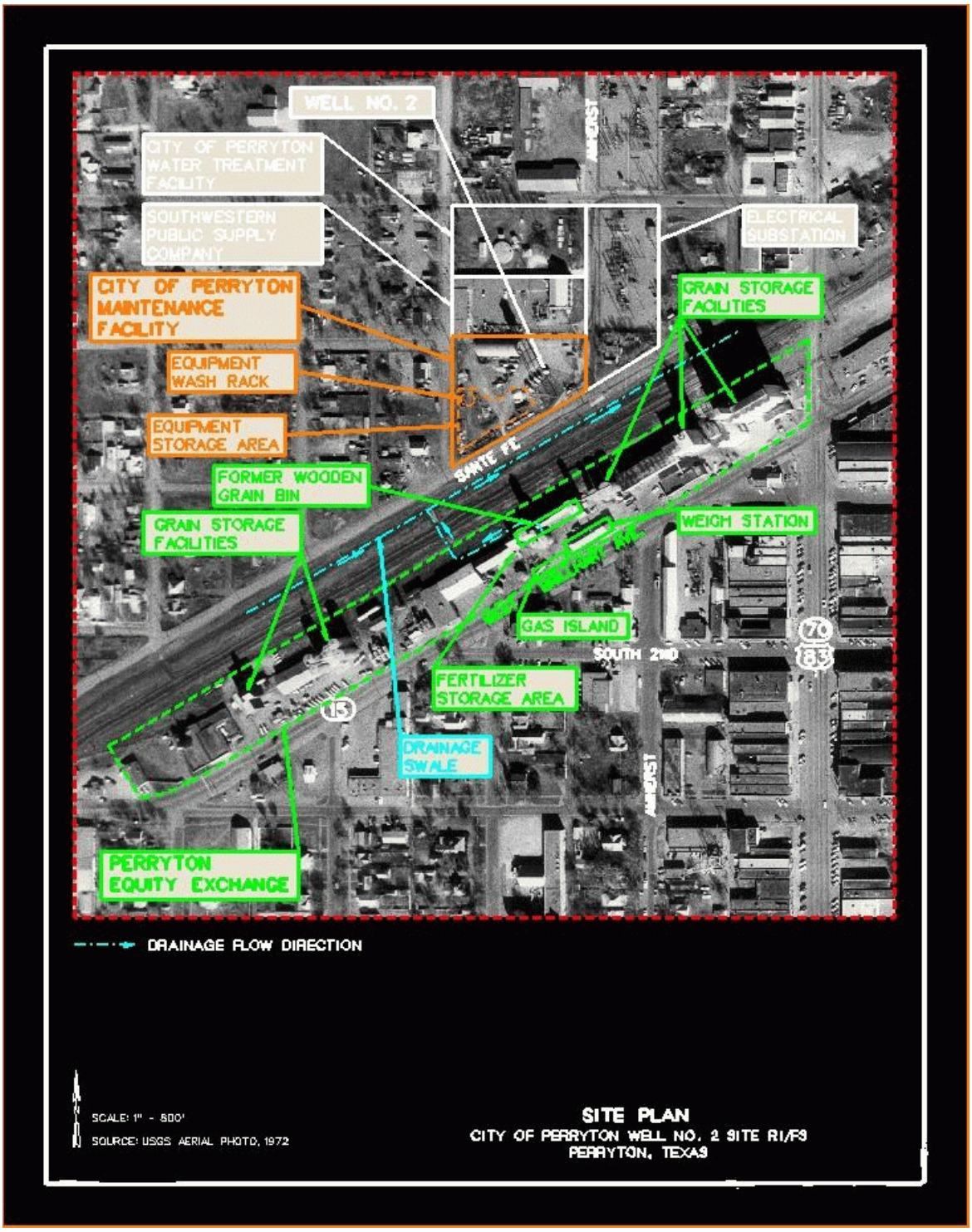
Hydrology: The Ogallala aquifer is the principal source of drinking water for the City of Perryton. The public water supply system consists of 11 wells completed in the Ogallala aquifer. Well No. 2 has a total depth of 420 feet and a static water level of 248 feet. Within the Site, the Ogallala has been divided into an upper and lower flow zones. The principal production zone for the City of Perryton is the lower flow zone. The upper flow zone is a perched interval with no distinguishable flow direction. Ground water flow in the lower zone is to the east-southeast.

Wastes and Volumes

Principal Pollutants: Carbon tetrachloride with a maximum concentration of 41 ug/L in the lower flow zone and 91 ug/L in the upper flow zone. Nitrate contamination has a maximum concentration of 17 mg/L in the lower zone and 14 mg/L in the upper zone.

Volume: The extent of contamination surrounds the City of Perryton Well #2 and the area beneath the Perryton Equity Exchange. The ground water contamination has not affected the other 10 municipal supply wells.

Site Map and Diagram



Site Assessment and Ranking

NPL LISTING HISTORY
Site HRS Score: 50
Proposed Date: 9/29/98
Final Date: 1/19/99
NPL Update: No. 26

The Remediation Process

Site History:

- Water samples analyzed in1989 by the Texas Department of Health detected carbon tetrachloride and chloroform in Well No. 2. The well was taken out of service at that time.
- In a September 1990 report, the City of Perryton identified the Perryton Equity Exchange as the most likely source of the carbon tetrachloride contamination. The Perryton Equity Exchange was a grain elevator storage facility that used carbon tetrachloride as a grain fumigant.
- An October 1990 assessment by the Texas Department of Health (TDH) concurred that the grain storage facility is the likely source of the carbon tetrachloride contamination. TDH also agreed that the water can be treated and used as a drinking water source.
- In 1991, the Texas Water Commission (predecessor to the Texas Natural Resource Conservation Commission) identified three potential sources of carbon tetrachloride contamination. These possible sources included the Perrtyon Equity Exchange, past storage of carbon tetrachloride by the City of Perryton at the pump house, and a rumored hand-dug well located 600 feet northwest of Well No. 2 located behind a machine shop.
- In November 1996, EPA's Expanded Site Inspection was completed which documented carbon tetrachloride contamination ranging from 35 to 50 ug/l in samples collected from Well No. 2. Other contaminants identified in the samples include the herbicides atrazine and propazine at concentrations below the drinking water standards. Lead was also detected at concentrations ranging from 35 to 60 ug/l.
- EPA resampled Well #2 on April 6, 1999. Since lead was detected in only one sampling event in 1996 from Well No. 2, additional samples were collected to evaluate whether the source of the lead is from the aquifer, the well equipment, or a lab error. The existing water supply pump was no longer serviceable and a temporary pump was utilized for this round of sample collection. Samples were collected at 5 intervals during a 100,000 gallon test. Sample analyses detected carbon tetrachloride at concentrations ranging from 38 to 42 µg/l, while lead concentrations decreased during the test from 9 µg/l to <2 µg/l. The herbicides Atrazine and Propazine also decreased during the test from a high of 5.5 µg/l to < 1 µg/l. Nitrate was unexpectedly detected at concentrations of 16 - 17 mg/l.
- EPA completed an Engineering Evaluation/Cost Analysis (EE/CA) to determine the appropriate treatment options to return Well No. 2 as a potable water supply and begin removing contaminants from the aquifer.
- TNRCC resampled the remaining public water supply wells on June 7, 1999, to

determine if nitrate has impacted the remaining wells. Sample results from the remaining ten wells had nitrate concentrations ranging from 1.81 mg/L to 5.73 mg/L. These concentrations are below the Maximum Contaminant Level of 10 mg/L established under the Federal Safe Drinking Water Act.

- EPA issued a Proposed Plan for public comment on August 12, 1999, to select an interim remedy for Well No. 2. The public comment period closed on September 13, 1999. An Open House was held at the Perryton City Hall on August 12th and the Public Meeting was held on August 24th.
- EPA signed the Interim Record of Decision on September 29, 1999 selecting an interim remedial action consisting of a treatment system that will remove the carbon tetrachloride from the ground water pumped from Well No.2 and then blend the treated water with water from Well No. 1 to reduce the nitrate concentrations to a target goal of 7 mg/L, which is less than the drinking water standard of 10 mg/L.
- EPA signed the site-wide Record of Decision on September 26, 2002. The selected remedy for the site will address the ground water contamination consisting of carbon tetrachloride, chloroform, nitrate, and atrazine. The remedy is the expanded operation of Well No. 2 with an additional extraction well pumping at a combined rate of 240 gpm, treatment of the extracted water through an air stripper, and discharge via pipeline to the Perryton south ground storage tank. The Proposed Plan for the Site was made available for public comment from July 31 - August 30, 2002.
- EPA has completed construction of the air stripper to remove carbon tetrachloride from water pumped from Perryton Water Well #2. The system has completed a 30-day test period to verify system performance. Proposed modifications to the system to improve performance are currently under review.
- EPA has installed the 2nd ground water extraction well and has completed construction on the RO system to remove nitrates from the extracted ground water. Construction activities will be completed in August with the system start-up in September 2003.

Health Considerations:

- Carbon tetrachloride is present in the aquifer at concentrations exceeding the MCL of 5 ug/L and nitrate is present exceeding the MCL of 10 mg/L established under the Safe Drinking Water Act. The ground water contamination poses a risk to the City of Perryton water supply.

Other Environmental Risks:

- There are no other known exposure pathways associated with the ground water contamination.

Record of Decision

Interim Record of Decision Signed: 9/29/99
Record of Decision Signed: 9/26/02

Community Involvement

- Community Involvement Plan: November 22, 1999
- Open Houses and Workshops: Open House held on 8/12/99 for the Proposed Plan for interim remedial action.
- Formal Public Meeting: Meeting held on 8/24/99 for the Proposed Plan for interim remedial action and 8/14/2002 for the final remedy at the Perryton City Hall.
- Site Repository: Perry Memorial Library, 22 S.E. 5th Street, Perryton, TX 7900-3112

Technical Assistance Grant

- Availability Notice:
- Letters of Intent Received: None
- Grant Award: None
- Current Status:

Contacts

- **EPA Remedial Project Manager:** Vincent Malott, 214-665-8313 or 1-800-533-3508
- **EPA Community Involvement:** NA
- **EPA Attorney:** I-Jung Chiang, 214-665-2160
- **EPA Region 6 Ombudsman:** Arnold Ondarza, 303-312-6777
- **EPA Contractor:** CH2M Hill
- **TNRCC Project Manager:** Diane Poteet, 512-239-2502

Enforcement

- **PRPs Identified:** No PRPs have been identified at this time.

Present Status and Issues

- The ground water pump and treat system is currently operational. The treatment plant is removing carbon tetrachloride via an air stripper and nitrates via a reverse osmosis unit. Operational data is reviewed on an ongoing basis to confirm the capture zone for the two extraction wells. The next site-wide sampling event will be in June 2004.

Benefits

- The ground water pump and treat system has effectively contained the contaminant plume and prevented further expansion of the plume. Remediation of the plume will allow unrestricted use of the aquifer, a primary source of drinking water for the City of Perryton.